

CLARIFICATION NUMBER CAO-00-022, REV. 3
MISCERTIFICATION RATE CALCULATION

ISSUE

1. How does a generator site apply the 11% initial miscertification rate? B2-1
2. How does a generator site apply the Summary Category Group-specific miscertification rates? B2-1
3. When can a generator site change its miscertification rate? B2-1
4. What is to be used to determine the drum weighted average: the number of drums within the Summary Category Group or the number of drums that have been visually examined within the Summary Category Group ? B2-1
5. Can historical data be used to fulfill the initial 11% miscertification rate requirement? B2-1
6. Must containers that undergo VE be selected randomly from the entire Summary Category Group? B2-1
7. Does the summary category group miscertification rate have to be recalculated annually? B2-1
8. Now that miscertification rates are based on summary category groups rather than waste streams, does the requirement to annually calculate a site-specific miscertification rate still apply? B2-1

CONCLUSION

1. The 11% applies to all generator sites until a site-specific miscertification rate is established. Sites may establish a site-specific miscertification rate by characterizing a lot of no less than fifty containers in a single Summary Category Group at the initial 11% miscertification rate.
2. The term Summary Category Group-specific miscertification rate refers to a miscertification rate that is determined for each Summary Category Group. Since there are only three Summary Category Groups in the Permit, there will be three separate rates established for those sites that plan to ship all three Summary Category Groups. The site-specific miscertification rate (either the initial 11% or the newly established site-specific miscertification rate) shall be applied initially to each Summary Category Group to determine the number of containers in that Summary Category Group requiring visual examination, as specified in Table B2-1. However, a Summary Category Group-specific miscertification rate shall be determined when either six months have passed since radiographic

characterization commenced on a given Summary Category Group, or at least 50% of a given Summary Category Group has undergone radiographic characterization, whichever occurs first.

3. A generator must adjust the miscertification rate at the following times:
 - a) When the initial 11% rate is adjusted to a site-specific rate (and the initial Summary Category Group Rate of 11% is adjusted to the Summary Category Group-specific rate).
 - b) When a Summary Category Group-specific rate is determined based on characterizing 50% of a Summary Category Group or using the first 6 months of a Summary Category Group's characterization, whichever occurs first.
 - c) When the site-specific rate is reassessed annually.
 - d) When the Summary Category Group Rate is reassessed annually.
4. The drum-weighted average miscertification rate will be determined annually based on the total number of drums within each Summary Category Group undergoing radiography. The calculations are provided in the discussion.
5. Historical data can be used to satisfy the VE requirements of the Permit as long as the VE method used is consistent with the VE method in the WAP. The CBFO has prepared DOE/CBFO-00-3174 Revision 2 entitled "Requirements for Evaluating and Documenting Waste Analysis Plan Compliance for Testing Batch Data Collected in Accordance with Waste Characterization Programs Approved Prior to November 26, 1999" to provide a definitive process for sites to use in bringing old VE data forward. This procedure is available on the RCRA Homepage at the following address:

<http://www.wipp.us/rcradox/menu.htm>
 - a) If the site has previously performed VE on drums that make up part of the initial 50 drum set, these historical examinations may be used.
 - b) If the site-specific miscertification rate indicates fewer drums are required to be visually inspected for a particular Summary Category Group than the initial 50 drums visually inspected from that Summary Category Group, then no further VE is required for that Summary Category Group for that year.

6. No. While the permit requires random selection of containers to undergo VE, this selection is made from those drums that have undergone radiography. Generator sites should randomly select drums from those undergoing radiography, at the rate determined for the Summary Category Group .
7. Yes. The Summary Category Group-specific miscertification rate must be calculated annually.
8. Yes. The site-specific miscertification rate must be calculated annually. This requirement has not changed in the permit and is still applicable.

DISCUSSION

- 1-5. According to Section B2-1 of the permit, an eleven-percent (11%) miscertification rate will be used to develop empirical inspection data with which to calculate the site-specific miscertification rate. This will be done by characterizing at least 50 containers from a Summary Category Group at the 11% rate. The results of this characterization will be used to calculate the initial site-specific miscertification rate. Data obtained from the visual examination of containers within this Summary Category Group prior to permit issuance may be used to obtain the site-specific miscertification rate. In addition, the characterization results from the initial Summary Category Group lot of at least 50 containers may be applied back to that particular Summary Category Group for the first year.

The site-specific miscertification rate, derived from the process described above, or adjusted annually as described subsequently, will then be applied as the initial rate for each subsequent Summary Category Group to determine the number of containers requiring visual examination within that Summary Category Group . Once either 1) six months have passed since radiographic characterization commenced for that Summary Category Group or 2) 50% of a particular Summary Category Group has undergone radiographic characterization (whichever occurs first), a Summary Category Group-specific miscertification rate must be determined. The Summary Category Group will, from then on, undergo visual examination according to this new Summary Category Group-specific miscertification rate until reassessed annually. Each Summary Category Group-specific miscertification rate shall be rounded off to the nearest integer value before being used to calculate the new site-specific miscertification rate. If a Summary Category Group-specific miscertification rate is calculated to be less than 1%, the site will use a miscertification rate of 1%. Annually, the site-specific miscertification rate will be reassessed by calculating a drum-weighted average of all historic Summary Category Group-specific miscertification rates. This new site-specific miscertification rate will then be applied to Summary Category

Groups which have not yet undergone any visual examination.

The drum-weighted miscertification rate may be calculated as follows:

$X_{s3000}, X_{s4000}, \dots, X_{s5000}$ = Population of drums from each Summary Category Group undergoing radiography in a year

N = number of Summary Category Groups undergoing radiography in a year

$Y_{s3000}, Y_{s4000}, \dots, Y_{s5000}$ = Summary Category Group-specific miscertification rate – The Summary Category Group-specific miscertification rate is calculated as the number of miscertifications in that Summary Category Group divided by the number undergoing VE in that Summary Category Group, in a year. (Must be rounded to the nearest integer and at least 1%.)

R = Drum-weighted average of the historic Summary Category Group-specific miscertification rates

$$R = \frac{\sum_{n=1}^N [X_{scgn} Y_{scgn}]}{\sum_{n=1}^N X_{scgn}}$$

- 7.-8. In order to meet the Quality Assurance Objectives for accuracy described in Permit Attachment B3, Sections B3-4, and B3-11a (listed below) and the intent of the Permit Application, the Summary Category Group-specific miscertification rate must be calculated based on the actual miscertification during the previous year.

B3-4, Radiography
Accuracy

The programmatic accuracy at which the waste matrix code and waste material parameter weights can be determined must be documented through visual examination of a randomly selected statistical portion of waste containers. The Permittees shall require the Site Project QA Officer to calculate and report the miscertification rate of waste containers that require assignment to a different waste matrix code or are found to contain prohibited items after visual examination as a measure of radiography accuracy. The miscertification rate shall be used to determine the number of drums subject to confirmatory visual examination.

B3-11a Reconciliation at the Project Level

...For each waste stream characterized, the Permittees shall require each Site Project Manager to determine if sufficient data have been collected to determine the following WAP-required waste parameters:...

- Whether a sufficient number of waste containers have been visually examined (as a QC check on radiography) to determine with a reasonable level of certainty that the UCL_{90} for the miscertification rate is less than 14 percent

Therefore, the sites must annually update its Summary Category Group-specific miscertification rate for each Summary Category Group and must calculate a site specific miscertification rate in accordance with Permit Attachment B2, section B2-1. Table B2-1 should then be used to determine the number of drums subject to VE for the next year. Annual Summary Category Group-specific miscertification rate updates will also appropriately change the site-specific miscertification rate.